

**REMARKS/ARGUMENTS**

The Office Action mailed May 16, 2007 has been carefully considered. Reconsideration in view of the following remarks is respectfully requested.

**The 35 U.S.C. § 102 Rejection**

Claims 1-9 and 12 stand rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by EP 0 403 138 (the “’138 application”). This rejection is respectfully traversed.

According to the M.P.E.P., a claim is anticipated under 35 U.S.C. § 102(a), (b) and (e) only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.<sup>1</sup>

Claim 1, as currently amended, is neither expressly or inherently described in the ’138 application, and therefore is not anticipated under 35 U.S.C. § 102. In particular, the present application claims “a single means of supplying” the inductor by “a single variable current” with two superimposed components of different frequencies. The apparatus of the ’138 application, on the other hand, describes *two* current sources for supplying the inductor with *two* variable currents. Moreover, the Examiner has not indicated where, if anywhere, in the ’138 application there is a disclosure of a diphas system. Therefore, the ’138 application does not teach or describe the invention claimed in claim 1.

As to dependent claims 2–12, the argument set forth above is equally applicable here. The base claims being allowable, the dependent claims must also be allowable.

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<sup>1</sup> Manual of Patent Examining Procedure (MPEP) § 2131. See also *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

**The 35 U.S.C. § 103 Rejection**

Claims 10 and 11 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over the '138 application in view of *Eckert* (US 5,968,223). This rejection is respectfully traversed.

Claims 10 and 11 are dependent on independent claim 1, which as amended is patentable for the reasons described above. The arguments above are equally applicable here. The base claims being allowable, the dependent claims must also be allowable.

Moreover, the U.S.P.T.O. has published Examination Guidelines on the issue of obviousness, taking into account the decision in *KSR International Co. v. Teleflex Inc.*, 82 U.S.P.Q. 2d 1385 (2007) (F.R. vol. 72, No. 195, 57426, Oct. 10, 2007). According to these guidelines, the Examiner must apply the *Graham*<sup>2</sup> factors. (*Id.* at 57527.) Any application of the *Graham* factors in an office action “should include, either explicitly or implicitly in view of the prior art applied, an indication of the level of ordinary skill.” (*Id.* at 57528.) Further, the Examiner “must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art.” (*Id.*) This explanation and analysis “should be made explicit.” (*Id.*)

The Office Action contends that the elements of the presently claimed invention are disclosed in the '138 application except that the '138 application does not teach “susceptors in the crucible.”<sup>3</sup> The Office Action further contends that *Eckert* “discloses baffle heaters placed in the crucible to promote heating of the molten metal by both sides of the baffle heaters” and that “it would have been obvious to one having ordinary skill in the art to have baffle heaters as taught by *Eckert*, in EP '138 for the purpose of promoting heat in the molten metal.” The

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<sup>2</sup> *Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966).

<sup>3</sup> Office Action ¶ 4.

Applicants respectfully disagree. The Examiner has shown that *Eckert* describes a baffle heater 100; however, the Examiner has not shown that *Eckert* describes a screen or susceptor, or other means (26) for controlling thermal gradients inside the first and second phases. Nor has the Examiner shown that *Eckert* describes or suggests multiple material phases or inductive mixing or heating.

Moreover, the Examiner has not provided the type of analysis required by the new Examination Guidelines for compliance with *KSR*. For instance, the Examiner has not indicated the level of ordinary skill in the art. Nor has the Examiner explicitly analyzed why the difference between the prior art and the claimed invention would have been obvious to someone possessing that level of ordinary skill in the art. Therefore, Applicants respectfully assert that claims 10 and 11 would not have been obvious in view of the prior art to one with ordinary skill in the art.

In view of the foregoing, it is respectfully asserted that the claims are now in condition for allowance.

**Conclusion**


It is believed that this Amendment places the above-identified patent application into condition for allowance. Early favorable consideration of this Amendment is earnestly solicited.

If, in the opinion of the Examiner, an interview would expedite the prosecution of this application, the Examiner is invited to call the undersigned attorney at the number indicated below.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case. Please charge any additional required fee or credit any overpayment not otherwise paid or credited to our deposit account No. 50-1698.

Respectfully submitted,  
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